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6 June 1985

MEMORANDUM FOR: Members of the Office of Training and  
Education Curriculum Committee

FROM:

Chief, Topical Issues Branch/ITD

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SUBJECT: Curriculum Committee New Course Checklist

1. The Topical Issues Branch (TIB) is planning to conduct a five week course entitled "Directorate of Science and Technology Career Trainee Course" (DS&T-CTC) during the period 1 July-2 August 1985, in the Chamber of Commerce Building. The objectives of this course are to provide the skills and knowledges necessary to make the DS&T career trainee (CT) immediately productive in his first assignment and to provide a basis for a career that satisfies both the employee and the Agency. The course fits into a series of courses and seminars being developed by TIB primarily for DS&T professionals under the DS&T Training Program.

2. Mr. Hineman indicated that the DS&T-CTC had priority in terms of development when the overall DS&T Training Program was first conceptualized over a year ago. He retains this interest in the program.

3. Students will be career trainees assigned to the DS&T. For the initial pilot running in July, only five DS&T CTs will be available, and the student population will be augmented with one junior professional from each of the six DS&T offices. For future runnings, a class size of approximately 15 students (all CTs) is projected.

4. The purpose of this course is to provide to the DS&T CTs those skills and knowledges identified in the DS&T Needs Assessment conducted by TIB and accepted by the DDS&T as being of high value to entrance-on-duty (EOD) level professionals. In addition, certain skills and knowledges important to mid-level professionals (3-5 years) have also been included where a continuity and relation to EOD-level needs could be identified. A variety of instructional methods are utilized in the course to include lectures, round table discussions, group exercises, individual exercises, role-plays, case studies, and demonstrations. Instructional methodologies will be augmented with the use of viewgraphs, slides, videotapes, and actual equipment and facilities.

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SUBJECT: Curriculum Committee New Course Checklist (cont'd)

5. The course will be conducted by TIB and ATB personnel, subject matter experts from CIA and other government agencies, annuatants with subject matter expertise, and outside contractors and consultants. The course outline has been reviewed by members of Intelligence Training Division and Career Training Division, and, in our judgement, provides the skills and knowledges necessary to attain our objective as stated in paragraph one.

6. Total cost to the government for the course is projected at \$27,600. This includes an estimated \$6,100 for annuatants charges and honorariums, \$21,000 for consultant and contractor fees, and \$500 for course supplies. Costs for the initial running will be absorbed by the DS&T. The course administration will require an estimated nine man-weeks of TIB instructor-

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-and training assistant-time. In addition, approximately two man-days of ATB instructor-

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-time will be required. A room has been reserved in the Chamber of Commerce Building for the Course.

7. All DS&T CTs are required to take this course. Since the CTC has a designated student population required to take the course, no marketing in a formal sense will be conducted. A highly detailed description of the course is contained in the DS&T Training Program Catalogue, and this is available to managers recommending employees as "internals" in the CT program and to the DS&T recruiter for use in describing the program to potential "externals."

8. We will ask each student to evaluate critical segments of the course. In addition, the exercises, briefings, writing assignments, and highly interactive nature of most classroom discussions will provide opportunities to access how much impact the course has on student behavior. However, due to the nature of the course, we have determined that additional evaluation of its effectiveness will be required. We plan to conduct follow-up interviews with both the students and their supervisors three-four months after the course to determine how well it met its objectives, its strengths and weaknesses, and what should be included in future runnings.

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## Attachments:

1. Course Schedule
2. Course Objectives
3. Needs Assessment Data

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Attachment 1

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DIRECTORATE OF SCIENCE AND TECHNOLOGY

CAREER DEVELOPMENT COURSE

COURSE NO. 1

Office of Training and Education  
Intelligence Training Division  
Topical Issues Branch

Staff

Course Director

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Training Assistant

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DIRECTORATE OF SCIENCE AND TECHNOLOGY  
CAREER TRAINEE COURSE (DS&T-CTC-1)  
1 JULY - 2 AUGUST 1985

DAY 1 - 1 JULY  
DS&T AND THE FUTURE

To whet your imagination and enthusiasm for the DS&T Career Trainee Course, we thought we'd begin with a brief look into the future! What new technologies are on the horizon? What will be the collection requirements five years from now? What new collection systems will the next ten years bring? These are issues and demands that you will face as the next generation DS&T intelligence professional. We've asked our guests to share their perceptions and insights into these issues with you so that you can better understand the challenges confronting you.

0830-0900      Introduction and Administration

[Redacted] 25X1  
DS&T Tng Officer

0900-1000      The Evolving DS&T Mission

R.E. Hineman  
DDS&T

Where is the DS&T going in the next decade? What are the critical issues facing the directorate in the future and how will it address them? What can you, as a new DS&T officer, expect in the future? The DDS&T will address these questions and set the stage for the presentations which follow.

1015-1230      Future Technology in CIA

[Redacted] 25X1  
DD/ORD

Our speaker, along with several of his associates in ORD, will address today's trends in technology and will indicate how they are likely to affect CIA in the performance of its mission in the years ahead.

1230-1330      LUNCH

1330-1430      Future Collection Systems

Robert Kohler  
D/OD&E

What collection systems are now in the planning and development stages, and how will they impact on the ways we collect, process, and produce intelligence in the ensuing years? Our speaker will provide answers to these important questions.

1445-1600      DARPA Activities

Dr. Tony Tether  
DARPA

It's safe to say that most people--even in government--are unaware

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of the Defense Advanced Research Projects Agency (DARPA), much less understand what its scope of activities involves. Our speaker will enlighten us as to what DARPA research is planning for the future and how it might impact on us as intelligence officers.

DAY 2 - 2 JULY  
DS&T AND THE INTELLIGENCE COMMUNITY

The DS&T is probably the most diverse and unique organization in the Intelligence Community. On the one hand, the directorate responds to the needs of the Agency, and, on the other, it interacts with other entities in the Community, government, the military, private industry, and academia. What exactly is this relationship, why does it exist, and how does it work--or doesn't it? Our guests will discuss various aspects of this relationship and the resulting responsibilities incumbent upon the DS&T.

0830-0845      Administration

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0845-0915      The DS&T Model

The DS&T is unique among the directorates in that it provides a microcosm of the intelligence process. All phases of that process, from requirements generation to production of finished intelligence, take place in the DS&T. The speaker will demonstrate how this process takes place and involves all six offices of the directorate.

0915-1030      The Requirements Process

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OTS

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Where do the requirements for construction of sophisticated collection systems come from? Who decides what strategic intelligence questions we will need to collect against in five to ten years? Who decides what unique equipment needs to be developed to support HUMINT collection? From where and from whom do the requirements come to build this exotic equipment? During this period, we will examine several case studies illustrating how the process works and the role played by DS&T.

1045-1200      The IC Staff and Others

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XO/ICS

What exactly is the role of the Intelligence Community Staff? How does it interact with other entities involved in the requirements, collection, and reporting process? What impact does it have on us as intelligence officers? The speaker will address these and related topics.

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1200-1300 LUNCH

1300-1415 The NRO

OD&E

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25X1

What is the National Reconnaissance Office? What does it do? Who staffs it? How does it relate to the DS&T? And why is its very existence classified? The speaker will answer these questions for us. (S)

1430-1600 Military-Industry-Govt Relations

Fred Waelchli  
Defense Systems  
Mgt College

What is the relationship between government and private industry? How is the military involved in "our" business? The speaker will address this often complex and confusing interdependency.

DAY 3 - 3 JULY  
PREDICTING TRENDS IN TECHNOLOGY

One of the major concerns of the Intelligence Community, and therefore of interest to the DS&T, is our adversaries' capabilities in science and technology. Is it possible to identify in which specific area their next S&T breakthrough will come? As a new DS&T professional, you could be involved in assessing this potential as well as the potential for U.S. S&T development and research. Our guests will discuss the problem of predicting technological trends with you, identify some critical issues, discuss some "lessons learned," and identify research resources available to you.

0830-1015 Problems/Successes/Failures/Enigmas

OTE

25X1

Forecasting is probably one of the more difficult and challenging aspects of the intelligence business. The speaker will talk about the problems we encounter, where we seem to succeed and where we have failed, pointing up what is to be learned from both.

1030-1145 S&T Requirements and Critical Issues

DD/OSWR

25X1

The speaker will address the S&T forecasting issues which the community assigns a very high priority for the future and touch on what we are currently doing in those areas.

1145-1200 Introduction to S&T Research Project

Class members will have the opportunity to apply their

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understanding of files and data bases by actually conducting a research project and producing a written report, bibliography, and a briefing on an assigned subject.

1200-1330      LUNCH & Travel to Headquarters

1330-1445      S&T Sources, Files, and Data Bases  
Room 2E62

25X1

OCR

The information explosion has given rise to numerous data bases, files and other sources of information. Office of Central Reference regularly accesses a number of these in response to queries. We will receive an explanation and demonstration of what is available to us and how to go about using it.

1500-1630      Research Project and Return to CofC      Class

4 JULY - HOLIDAY

DAY 4 - 5 JULY  
S&T RESEARCH PROJECT

0830-1600      Research Project      Class

DAY 5 - 8 JULY  
WORKING IN THE S&T ENVIRONMENT

In the DS&T, you seldom work in a vacuum--you are constantly interacting with your colleagues, superiors, contractors, liaison contacts, or attending meetings, or serving as your office's representative on some team or task force. Over the next two days, we'll examine some of the things that influence your behavior and work on ways to improve your effectiveness in dealing with, influencing, and motivating others.

0830-1030      The Myers-Briggs Type Indicator

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OTE

This session will provide feedback on one of the precourse assignments. Each participant will be given his own profile; only the class profile will be displayed in an open session. This will give each participant the opportunity to make individual comparisons with the class profile and with profile of others who have taken the same test. The interpreted results will sensitize each participant to their possible effect on his interpersonal and problem solving styles.

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1045-1200      Barriers to Problem Solving

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Through several exercises and discussions, we will explore perceptual hurdles to effective problem solving.

1200-1300      LUNCH

1300-1400      Using Group Resources

OTE

25X1

Intelligence officers are increasingly called upon to participate in group efforts. We will consider how groups function most effectively and how the individual contributes to effective group problem solving.

1415-1600      Exercise & Feedback (Videotaped)

Staff

The participants will take part in a group problem solving exercise. The exercise will be videotaped for use during the feedback sessions so participants will be able to critique their own styles and the functioning of the group.

DAY 6 - 9 JULY

0830-1030      Exercise & Feedback (Videotaped)

Staff

This exercise, entitled Red/Green, also videotaped, will help the participants explore not only functions and roles within the group, but how two different groups interact.

1045-1200      Facilitation Techniques

Having a good facilitator makes a difference in how the group functions and how well it accomplishes its tasks. We will discover what makes a good facilitator and how you can practice these techniques.

1200-1300      LUNCH

1300-1500      Creative Problem Solving

OTE

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In routine analytical problem solving, we bring, on the average, less than one tenth of our brainpower to bear. This session will introduce techniques you can use to stimulate your innate creativity to produce imaginative and expansive results.

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1515-1600      Creativity Videotape

This commercial videotape will reinforce the points made during the previous discussion and present additional food for thought.

DAY 7 - 10 JULY

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0830-1015      Developing Options

This session will focus on utilizing the creativity factors already discussed in developing as many viable options as possible.

1030-1200      Structuring Analysis

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Chief, TIB/ITD/OTE

There are many techniques used in structuring a problem. This session will examine some simple, effective ways to compare options.

1200-1300      LUNCH

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1300-1415      Ranking

One especially useful way to compare options involves ranking. The instructor will guide the class through a ranking exercise.

1430-1600      Determining Probability

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The class will focus on how probability can be used to better estimate and understand unfolding scenarios. Students will apply this technique to various sample problems.

DAY 8 - 11 JULY  
BRIEFING IN THE DS&T

One of the more critical DS&T skills to surface during the needs assessment phase in the development of this program was the ability to brief information effectively. The importance of briefing skills to the success of professionals within the DS&T was consistently reinforced throughout the directorate. For this reason, Dr. Raymond Falcione was asked to design and develop a briefing program for DS&T CTs. Dr. Falcione is Associate Professor and Director of the Speech Communication Division of the University of Maryland. In preparing the program presented here, Dr. Falcione interviewed experienced briefers from various DS&T offices in order to identify the kinds of demands faced by DS&T briefers and to incorporate these topics into the following program.

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0900-1015      Briefing Within the DS&T

Dr. Ray Falcione  
A DS&T Briefer

A senior DS&T briefer will join the instructor in discussing how various factors impact oral presentations. The DS&T briefer will comment on specific examples of office and directorate level presentations.

The factors to be addressed include:

INTRODUCTION:

1. Was the purpose of the briefing made clear?
2. Topic made important?
3. Body of briefing (main points) previewed?

BODY:

1. Was the message structured effectively?
2. Were the main points balanced?
3. Was effective support given for main points?
4. Were there internal summaries for main points?

STYLE:

1. Was the word choice effective?
2. Terminology too vague, too technical?
3. Choice of terms trigger unintentional reactions?

DELIVERY:

1. Effective use of voice?
2. Effective gestures?
3. Effective eye contact?

OTHER:

1. Effective use of visual aids?
2. Effective Q/A (open, closed, clarifying techniques)?

1030-1115      Film: "Speaking Effectively to One Or One Thousand"      Ray Falcione

The film, which reinforces the points covered during the previous discussions, will be followed by further discussion.

1115-1200      Planning A Briefing      Ray Falcione

Effective planning has significant impact on the viability of a briefing. The instructor will discuss the steps to follow in the planning process.

1200-1300      LUNCH

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1300-1415      Using Visual Aids      Ray Falcione  
DS&T Expert

Visual aids can be very important in a briefing if they are prepared and used correctly. Our DS&T expert and the instructor will provide and discuss specific examples of both good and bad visual aids.

1430-1515      Visual Aids Exercise      Class

Participants will be placed on teams and given data for conversion into visual aids. The emphasis will be on viewgraphs, the "lingua franca" of the DS&T.

1515-1600      Team Presentations      Class

A participant from each team will present a 3-5 minute briefing using the assigned material. Each briefing will be discussed in class by the DS&T expert and the instructor.

1600-1615      Summary and Review      Ray Falcione

DAY 9 - 12 JULY

0900-1000      Film: "What, Me Give a Presentation?" Ray Falcione

This film reinforces many of the points concerning planning, organizing, rehearsing, and presenting briefings. A discussion follows the film.

1000-1100      Preparation of Informative Briefings      Class

An outline is provided for all participants to begin preparation for a 5-7 minute major informative briefing to be given during the next session. While the outline provided by the instructor gives each participant a suggested structure, the briefing topic and content are provided by the participants and should deal with real S&T issues. Each briefing will be videotaped.

1100-1200      LUNCH

1200-1600      Informative Briefings      Class

Each participant will present a 5-7 minute informative briefing using visual aids, followed by a Q/A period. Each briefing will be videotaped, and, following observations by the class, the briefer will receive immediate feedback in a private session with a staff member.

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1600-1615      Summary and Review

Ray Falcione

DAY 10 - 15 JULY

0900-0945      Persuasive Briefings

Ray Falcione

The instructor will conduct a lecture/discussion outlining an effective strategy called "Issues Analysis." It is a structured way of developing a persuasive briefing. The lecture/discussion is followed by short exercises designed to reinforce the organizational structure of persuasive briefing. Specifically, a disorganized outline is presented, and the participants are to place the arguments into proper order according to the four issues discussed earlier.

0945-1100      Preparation of Persuasive Briefings      Class

The participants will prepare for a 20 minute persuasive briefing under guidelines given by the instructor.

1100-1200      LUNCH

1200-1600      Persuasive Briefings      Class

Each participant will present a persuasive briefing using visual aids followed by a Q/A period. Each briefing will be videotaped, and, following observations by the class, the briefer will receive immediate feedback from a staff member in private.

1600-1630      Summary and Conclusions      Ray Falcione

The instructor will briefly lead the class through a summary of the skills presented in the course.

DAY 11 - 16 JULY  
S&T RESEARCH PROJECT

0830-1600      Research Project

Class

DAY 12 - 17 JULY  
WRITING FOR THE DS&T

Clear, concise writing, especially of scientific and technical material, was rated among the more valuable DS&T skills during the needs assessment phase of this program. This importance was later underscored in interviews of experienced DS&T writers conducted by Dr. Susan Dunkle, Documentation Manager of the Software Engineering Institute at Carnegie-Mellon University. Based on these interviews and her past experience at Carnegie-Mellon, Dr. Dunkle has developed the following technical writing program especially for DS&T Career Trainees.

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0830-0845      Introduction and Overview

Dr. Susan Dunkle  
Carnegie-Mellon

0845-0915      Writing for Organizations

Susan Dunkle

The instructor will discuss with the class how the organizational environment impacts the writing process; more specifically: the professional's role as a writer; distinctive characteristics of reports written for organizations; constraints imposed on the writing process by the organization; and constraints particular to writing in the DS&T.

0915-0945      The Documentation Process

Susan Dunkle

Dr. Dunkle will present an overview and discuss with the class the sequence of related tasks that must be performed properly to develop an effective technical document. Such tasks include analysis, design, generation, evaluation, revision, and editing.

1000-1100      Audience Analysis

Susan Dunkle

The class will explore a strategy for determining the informational needs of the target audience and assessing how those needs impact the rhetorical task. The particular characteristics of readers of DS&T reports will be discussed.

1100-1200      Rhetorical Purpose

Susan Dunkle

The instructor will explain how to choose the appropriate rhetorical purpose for an S&T document based both on the writer's goal and the readers' needs. This requires a clear understanding of the distinction between the scientist's technical purpose and the reason the document is being written.

1200-1300      LUNCH

1300-1400      Rhetorical Purpose (Cont'd)

Susan Dunkle

To illustrate the distinction between technical purpose and rhetorical purpose, several different DS&T documents will be reviewed and discussed.

1415-1615      Design and Generation

Susan Dunkle

This session will deal with choosing a rhetorical design that is appropriate to the writer's purpose and the audience's needs. The class will examine strategies they can use to generate text appropriate to their designs, and will discuss appropriate design strategies for specific DS&T reports.

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DAY 13 - 18 JULY

0830-1045      Evaluating Structure      Susan Dunkle

The class will examine the technical writing problem from the structural view. Specifically, the relationships between pieces of information and the way they should be presented so that the patterns of relationship are clear both to the writer and the reader will be presented.

1045-1145      Structuring Paragraphs      Susan Dunkle

This session will focus on composing strategies at the paragraph level to include: topic/comment, Toulmin logic, coordination, and subordination.

1145-1245      LUNCH

1245-1345      Structuring Sentences      Susan Dunkle

The instructor will explain the use of semantic grammar as a powerful analytical and structuring device that leads to clear, concise technical prose. This includes techniques involving old/new information and light/heavy sentence construction.

1400-1500      Editing      Susan Dunkle

The presenter will explain how to identify and treat a range of diction problems, including nominals, noun strings, redundant modifier, redundant categories, and will present guidelines for "low-level" editing tasks, such a punctuation and spelling.

1500-1600      Review and Summary      Susan Dunkle

This session will be used to review and summarize the skills learned in the last two days.

DAY 14 - 19 JULY  
S&T RESEARCH PROJECT

0830-1600      Research Project      Class

DAY 15 - 22 JULY  
THE DS&T CONTRACT PROCESS

Most of you in your DS&T careers will be involved sooner or later in some aspect of the contract process. In some offices, this

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involvement comes sooner than you might expect. Knowledge of the contract process, the terminology used, and what is expected of a COTR (Contracting Officer's Technical Representative) is a definite advantage for the new DS&T professional. To enhance this aspect of your career potential, Francis Brosnihan, an Agency retiree with over 20 years of DS&T contract related experience, has designed and developed the following introduction to the contract process. 25X1

0830-0900 Administration

0900-0915 Course Objectives

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DS&T personnel assigned to handle agency projects that involve purchase of supplies and services from private sources must be familiar with the Federal Procurement Process and the Agency policies and regulations that implement it. During this program, you will be introduced to acquisition planning which includes pre-award activities such as requirement, specification, procurement request, and source selection, as well as post-award contract administration. 25X1

0915-1030 Determination of Requirement

Agency requirements are initiated in many ways. Many are unpredictable and require fast turn arounds, so program officers must be prepared to identify specific needs to formulate a firm statement, estimate budgets, utilize in-house capabilities and locate qualified commercial or academic organizations to do the work. We will explore how requirements are determined--usually the first step in the procurement process.

1030-1230 Requirement Specification

DS&T Tech Officer

The program office looks to the program manager to develop the requirement specification in sufficient detail for a qualified source to successfully complete the project. The instructor and a DS&T technical officer will conduct class discussion and guide the participants in a work breakdown structure exercise.

1230-1330 LUNCH

1330-1430 Agency Budget Policies and DS&T  
Program Approval Procedures

DS&T Staff Officer

Financial and administrative management is involved at all levels of a DS&T project--mission priorities, fiscal constraints, and schedule deadlines always contribute to the daily workload of a project manager.

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An experience DS&T staff representative will review these procedures and answer questions from participants.

1430-1500      Industrial Audit of Contract Proposal

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Office of Finance Industrial Contract Audit Division will assist program managers in the evaluation of contract source proposals. Accounting systems and elements of proposal cost will be reviewed and a sample cost proposal will be discussed.

1500-1600      Procurement Advice--Office of  
General Counsel

OGC

The legality of the Agency's procurement practices, the conduct of employees in their relationships with industrial contractors, and other information will be presented by our speaker.

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DAY 16 - 23 JULY

0830-0900      Review of Yesterday's Highlights

0900-1000      Procurement Requests

Program officers prepare supporting documentation containing all requirements and data to permit contractor sources to respond to Agency requests for proposal. We will examine what this entails.

1015-1230      Preparation of RFPs

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Requests for proposal (RFP) must contain all requirements. This involves developing proposal evaluation and source selection criteria as supported by internal procurement planning.

1230-1330      LUNCH

1330-1430      Documentation and Verification

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Documentation, program management, and verification of RFPs require close coordination with DS&T staff officers, procurement officers, and logistics personnel to certify proposed RFPs meet internal overview criteria.

1430-1545      Preparation of Cost Estimate

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The class will prepare a cost estimate for the manufacture and delivery of a special but definite article. The estimate must include

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programed costs for completion of five of the articles. Cost elements will include those presented yesterday by the Agency's auditor. Our speaker will discuss with the class the importance of cost estimating as a check on the credibility of the contractor's managerial strategy.

1545-1600      Summary and Review of Material  
Class Quiz.



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DAY 17 - 24 JULY

0830-0900      Protection of Procurement Process      Logs Officer  
Our speaker will discuss DS&T policy on this subject.

0900-1000      Solicitation



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This segment will address the importance of clearly defining all items contained in the RFP prior to sending it to the potential contractor. The class will critique an example of an actual DDS&T RFP.

1030-1130      Evaluation of Proposals



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Our presenter will identify the steps in the evaluation process and discuss procurement practices e.g. Agency policy and legal restraints regarding discussions of proposals outside the evaluation team.

1130-1230      Negotiations



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The class will be introduced via lecture and discussion to some of the key factors involved in business negotiations. These factors include: planning, assessing your power, cooperative verses competitive negotiations, opening moves, tactics, concession do's and don'ts, and closing the deal.

1230-1330      LUNCH

1330-1430      Negotiation Exercise

Class

Participants will demonstrate their understanding of this process by participating in a negotiation exercise based on a realistic scenario developed by the staff. The exercise will be reviewed and the impact of the negotiations discussed by the class.

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